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Your attention is invited

**NEWS
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**JOURNAL OF THE SANITARY ENGINEERING DIVISION
PROCEEDINGS OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS**

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ALABAMA



OFFICE OF THE ATTORNEY GENERAL
MONTGOMERY, ALABAMA

DIVISION ACTIVITIES

SANITARY ENGINEERING DIVISION

Proceedings of the American Society of Civil Engineers

NEWS

September, 1961

DATA PROCESSING CONFERENCE SCHEDULED

The International Federation of Information Processing Societies (IFIPS) will hold a Congress in Munich, Germany, from August 27 to September 1, 1962.

The congress will cover all aspects of Information Processing and Digital Computers including the following:

1. Business Information Processing
e. g. data processing in commerce, industry, and administration.
2. Scientific Information Processing
e. g. numerical analysis; calculations in applied mathematics, statistics, and engineering; data reduction; problems in operations research.
3. Real Time Information Processing
e. g. reservation systems; computer control; traffic control; analogdigital conversion.
4. Storage and Retrieval of Information
e. g. memory devices; library catalogues.
5. Language Translation and Linguistic Analysis
6. Digital Communication
e. g. encoding; decoding; error detecting and error correcting codes for digital data transmission.
7. Artificial Perception and Intelligence
e. g. pattern recognition; biological models; machine learning, automata theory.

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8. Advanced Computer Techniques

e. g. logical design; logical elements, storage devices; ultra high-speed computers; program techniques; ALGOL.

9. Education

e. g. selection and training of computer specialists; training of non-specialists in the use of computers; information processing as a University subject.

10. Miscellaneous Subjects

e. g. growth of the information processing field.

In each category it is planned to cover, where appropriate, the applications of digital computers, programming, systems design, logical design, equipment, and components.

Those wishing to offer papers are invited to send abstracts of 500-1000 words to: Dr. E. L. Harder, Westinghouse Electric Corporation, East Pittsburgh, Pennsylvania, by September 15, 1961. These abstracts will be considered by the international program committee of IFIPS, and authors of selected abstracts will be invited to submit their complete papers (in French or English) for consideration by the program committee in March 1962.

In addition to accepted papers, there will be invited papers, symposia, and panel discussions.

DID YOU KNOW THAT

Omar C. Hopkins retired recently after a 36-year career as a Commissioned Officer in the U. S. Public Health Service. Mr. Hopkins will be associated with the Dept. of Water Pollution Control for the City of Kansas City, Missouri.

Dave F. Paddock was appointed a member of the Pennsylvania Sanitary Water Board by Governor Lawrence.

Robert E. Stiemke is the new Director of the Experiment Station at the Georgia Institute of Technology. Mr. Stiemke is also the incoming member of the Executive Committee of the Sanitary Engineering Division replacing Lewis A. Young whose term expires in October 1961.

Charles H. Callison assistant to the President of the National Audubon Society was appointed by President Kennedy as a member of the Water Pollution Control Advisory Board.

Jerome Wilkenfeld of the Hooker Chemical Corp. and Jack T. Garrett of the Monsanto Chemical Co. have been named Chairman and Vice-Chairman respectively of the Water Pollution Control Abatement Committee of the Manufacturing Chemist Assoc., Inc.

Ken MacKichan is the new District Chief of the Quality of Water Branch USGS in Ocala, Fla. Jim Geurin his predecessor is the new Branch Area Chief for the mid-continent area USGS in St. Louis, Missouri.

The Engineering Mechanics Division is devoting one of its sessions at the Annual Meeting in New York City on the general subject of research in civil engineering. A prominent panel of speakers will discuss "Relationship of Research and Civil Engineering to National Goals," "The Impact of Research on Engineering," "The Role of A.S.C.E. in Supporting Research," and "Plans of the Research Committee, A.S.C.E."

WATER SUPPLY & POLLUTION CONTROL

NEW DRINKING WATER STANDARDS

The United States Public Health Service recently announced the first major revision of the Drinking Water Standards for the United States since 1946.

First promulgated in 1914, the standards form the basis for legally regulating the drinking water used on trains, airplanes, buses, and vessels in interstate commerce. They are formulated by a National Advisory Committee to the Public Health Service.

In the revised standards, requirements for water quality were generally raised. Some remained the same. Few changes were made in bacteriological standards. Limits for certain chemical pollutants were added for the first time.

Also, for the first time, the standards include limits on concentrations of radioactivity in drinking water. The committee report pointed out that the radioactivity limits were developed from recommendations of the Federal Radiation Council, the National Committee on Radiation Protection, and the International Commission on Radiological Protection. These limits are as follows:

Radium ²²⁶	3 micromicrocuries per liter
Strontium ⁹⁰	10 micromicrocuries per liter
Gross beta activity	1,000 micromicrocuries per liter

With the continuing growth of population, industrial expansion, and manufacture of new synthetic chemical compounds, there is a need for setting safe and acceptable limits for new impurities in drinking water supplies. The current revision includes limitations on the following chemicals not previously regulated:

Alkyl benzene sulfonate (detergents), barium, cadmium, carbon chloroform extractables (exotic organic chemicals), cyanide, nitrate and silver. (Revision of chemical limits is shown in attached table.)

The Committee's report sets forth general guidelines for water protection, including the requirement that drinking water contain no impurity which would offend sight, taste, and smell. Moreover, substances which may have deleterious physiological effects, or for which physiological effects are not known, should not be introduced into the water system in any way that would permit them to reach the consumer.

Although the growing problem of potentially harmful chemicals in sources of drinking water was recognized, the Committee did not find it to include limits for all the chemicals that have varying degrees of toxic potential. Consideration was given to the more common chlorinated hydro-carbon and organophosphate insecticides but the information available was not sufficient to establish specific limits for these chemicals. Moreover, the concentration of these chemicals, where tested, have been below those which would constitute a known health hazard. The Committee stated that pollution of water supplies with such contaminants can become significant and urged that the problem be kept under closer surveillance. Further, the Committee recommended that regulatory action be taken to minimize concentrations of such chemicals in drinking water.

The Committee, which met three times, (March, 1959, March, 1960 and February, 1961) was composed of representatives of thirteen scientific, professional, and industrial organizations, and three Federal agencies. A technical subcommittee of U. S. Public Health Service Officers was appointed to

TABLE.—REVISION OF CHEMICAL LIMITS

	Recommended Maximum Limits ^a (milligrams per liter)		Concentrations which constitute grounds for rejection of supply (milligrams per liter)	
	1946	1961 Revision	1946	1961 Revision
Alkyl benzene sulfonate (Detergent)	-	0.5		
Arsenic	-	0.01	0.05	0.05
Barium			-	1.0
Cadmium			-	0.01
Carbon chloroform extract (exotic organic chemicals)	-	0.2		
Chloride	250.	250.		
Chromium			0.05	0.05
Copper	3.0	1.0		
Cyanide	-	0.01	-	0.2
Fluoride	-	1.7 ^b	1.5	2.2 ^b
Iron / manganese	0.3	-		
Iron	-	0.3		
Lead			0.1	0.05
Manganese	-	0.05		
Nitrate	-	45.		
Phenols	0.001	0.001		
Selenium				0.01
Silver			-	0.05
Sulfate	250.	250.		
Total dissolved solids	500.	500.		
Zinc	15.	5.		

^a Concentrations in water should not be in excess of these limits, when more suitable supplies can be made available.

^b Fluoride temperature concentration relationships are discussed in detail in the text.

assist the Advisory Committee. A task force on toxicology was established to review the chemical standards.

ORSANCO ROBOT MONITOR CLINIC

Water supply engineers and chemists in the Ohio Valley previewed latest developments in the ORSANCO ROBOT MONITOR system at Cincinnati last June. Representatives of municipal, state, federal and industrial groups attended the two-day clinic sponsored by ORSANCO. This electronic water quality analyzer and transmitting system which was developed by the Ohio River Valley Water Sanitation Commission is now being installed in locations along the Ohio River and some of its tributaries. A prototype unit has been operating for almost a year at the Cincinnati Water Works providing a 24-hour a day surveillance of water quality changes and telemetering this information to the evaluation center at headquarters. Additional units will be located to serve Pennsylvania, New York, Virginia, West Virginia, Ohio, Kentucky, Indiana and Illinois. Actual installation of the network was begun in August.

Calling the robot monitor "an adventure in imagineering," Edward J. Cleary, executive director and chief engineer of ORSANCO, said that this device holds promise for being one of the most valuable tools for safeguarding quality of river supplies.

SECOND BIENNIAL REPORT AVAILABLE

The Florida Department of Water Resources has announced the release of its Second Biennial Report. The report covers the period January 1, 1959-December 31, 1960, a time of rainfall excesses and floods.

Three main sections are used to group the data of the report. The section on the hydrology of Florida's water resources, presents data on the rainfall, surface water flows, ground-water levels, and floods during 1959 and 1960. Local, state and federal water resources developments during the biennium are presented in the second section. The report is concluded with a section summarizing the technical and administrative activities of the Department of Water Resources during the biennium. Recommendations of the Water Resources Advisory Committee are presented and special attention is called to the water resources project needs of the immediate future.

A limited number of copies of the report are available. Requests should be directed to the Florida Department of Water Resources, The Capitol, Tallahassee, Florida.

CALIFORNIA WATER POLLUTION CONTROL BOARD REPORT

Many activities during May & June involved long-range planning, research and other preparations for better water pollution control in the future. A completed engineering report on Livermore Valley sewerage problems is a basic step for valley-wide waste disposal. The San Francisco Bay Regional Board initiated long-range plans and policy for this area and the Las Gallinas Valley watershed.

Efforts of the Lahontan Regional Board led to a \$50,000 donation by the Max Fleischmann Foundation to the Lake Tahoe Area Council for a comprehensive study of water pollution control at the interstate lake. Santee County Water District opened for public use a recreational lake formed primarily of sewage treatment plant effluent. The Santa Ana Regional Board prohibited any direct discharge of waste to Big Bear Lake, and issued a cease and desist order against the Orange County Sanitation Districts relative to beach pollution.

The San Francisco Bay Regional Board prescribed waste discharge requirements and a monitoring program for a Richmond refinery with a unique provision for review in two years. The North Coastal Regional Board is arranging for background monitoring of coastal waters prior to construction of an atomic reactor power plant at Bodega Bay. This board also worked with a research study of sewage oxidation pond effluent improvement by fish and fish-food organisms, and a proposed study of reclamation of pulp mill waste water for irrigation.

The Central Coastal Regional Board, in cooperation with the California State Polytechnic College, presented the Third Annual Short Course for Sewage Treatment Plant Operators.

The State Board established a priority rating list qualifying 34 communities to receive construction grants from the anticipated \$2,499,925 allocation to California under the Federal Water Pollution Control Act. Applications for 61 projects requested grants totaling \$9 million.

President Mateos of Mexico dedicated Tijuana's new disposal system to convey raw sewage away from California beaches. Mexico budgeted funds for sewage treatment at Mexicali which now discharges raw sewage into the New River flowing into California. Calexico established a monthly sewer charge to raise funds for its treatment plant on the California side.

New sewage treatment plants or expansions were completed at Calistoga, Palm City, Pauma Valley and Rancho Santa Fe. Effluent from the latter two will be reclaimed for beneficial use. El Cajon and San Diego started construction, and bids for construction of sewage works were taken by San Diego, Leucadia and San Diego County Viejas Honor Camp.

PROTECTION OF FISH STREAM STRESSED IN ENGINEERING REPORT

Spring Creek, (Pennsylvania) famous trout stream, cannot be used both for sewage and fish purposes.

This statement is contained in an 109-page report issued following a six-month study made at a cost of \$27,500 by Metcalf and Eddy, Boston, Mass. engineering firm.

The stream, site of Fisherman's Paradise and three fish hatcheries, receives the treated wastes discharged from the Pennsylvania State University sewage treatment plant which treats both the University and borough sewage.

If the fish hatcheries are to stay, then the pollutional loads "must be removed," the report stated.

The report also recommended that additional treatment be provided for the wastes now being received at the University's plant and that the final effluent be pumped by pipeline and discharged into Bald Eagle Creek near Milesburg, a village 12 miles from State College. The cost of constructing the pipeline and pumping station to push the discharge was estimated by the engineering firm at \$2,500,000.

The survey was financed jointly by the Pennsylvania State University, the boroughs of State College and Bellefonte, Centre County commissioners and the Pennsylvania Department of Health. It was designed to find a long-range solution to the Spring Creek pollution problem. Several fish kills occurred on the stream two years ago.

The engineering report, submitted to a group known as the Spring Creek Committee, included these statements:

1. The treated wastes discharged from the Pennsylvania State University sewage treatment plant contain certain constituents, namely phosphorus, nitrogen, A.B.S. (an ingredient in synthetic detergents) which individually and collectively cause excessive dissolved oxygen depletion in portions of Spring Creek and its tributaries.

2. They also encourage profuse aquatic plant growths and generally make Spring Creek unsuitable as a source of water for fish cultural purposes.

3. These constituents cannot be sufficiently reduced by known sewage treatment methods to meet the water quality standards for Spring Creek as prescribed by the Pennsylvania Fish Commission.

"It is our opinion," the report said, "that the reaches of Spring Creek embracing the hatcheries and Fisherman's Paradise cannot be used both for fish purposes and as a means of transporting sewage effluents."

The report said that if the fish hatcheries are to stay, then the pollutional loads "must be removed."

"For this reason and in order to resolve the immediate and long-range problem, we recommend that the treated effluent be diverted from Spring Creek to Bald Eagle Creek near Milesburg by means of a pumping station and pipeline at an estimated cost of \$2,500,000," the report stated.

The engineering firm also recommended that the existing University treatment facilities be expanded by the addition of the activated sludge process to "meet the growing need for additional treatment facilities."

Here are the report's conclusions and recommendations in context:

"The present condition of Spring Creek is due to the discharge of treated wastes to the stream by the Pennsylvania State University sewage treatment plant."

"Certain constituents of the wastes, namely phosphorus, A.B.S. and BOD, cannot be sufficiently reduced by sewage treatment or by the available dilution to the prescribed limits for water quality set forth by the Pennsylvania Fish Commission."

"Spring Creek cannot be used for the disposal and transportation of treated wastes from the State College area and still be maintained as a first class trout stream and as a source of water for fish cultural purposes."

Therefore, in order, (1) to resolve the current and long-range problems in Spring Creek; (2) to meet the requirements of the fish hatcheries; and (3) to preserve the sports fishing in Spring Creek and Fisherman's Paradise, we recommend that:

"The treated sewage from the State College area be removed from Spring Creek and pumped down the Nittany Valley to Bald Eagle Creek at Milesburg. The cost of constructing a pumping station, situated near the present University treatment plant, and pipeline is estimated to be about \$2,500,000. The use of an existing pond as a sewage treatment facility would be abandoned."

"Activated sludge treatment facilities would be added to the existing University sewage treatment plant in order to meet the growing need for additional treatment facilities."

"Upon construction of the proposed pipeline and sewage treatment plant addition, a year-round sampling program at Bald Eagle Creek be initiated for the purpose of determining the nutrient content of the

stream waters. If the results indicate the phosphorus levels are conducive to aquatic plant growth, the sewage treatment facilities should be further supplemented by chemical coagulation facilities."

"The effluent from the Rockview State Penitentiary be sampled on a year-round basis in order to determine the quality and quantity of the wastes. If the wastes have a detrimental effect upon Spring Creek, provisions should be made for discharging the treated waste to the proposed pipeline to Bald Eagle Creek."

WATER LAW CONFERENCE SCHEDULED AT THE UNIVERSITY OF GEORGIA

The Institute of Law and Government of the School of Law at the University of Georgia, in conjunction with the Southeast Land Tenure Committee and the Farm Foundation, announced recently that they will sponsor a water law conference for the southeast. The Conference will be held at the Center for Continuing Education on the campus of the University of Georgia at Athens, Georgia, November 8-10, 1961.

The conference will examine the present status and future developments in the area of water use and water law. It is expected to deal with such subjects as: common law rules regarding use of surface and ground water, legislation for administering water use, water pollution control programs, economic aspects of water use, regulations of water use in local areas and laws concerning minimum streamflow and impoundments.

Authorities and experts on water law from throughout the Southeastern States will present discussions. Problems and questions dealing with water resources will be discussed. Several panels are scheduled.

Information can be obtained from Mr. George J. Goulette, Conference Coordinator, The Georgia Center for Continuing Education, University of Georgia, Athens, Georgia.

PENNSYLVANIA INSTALLS AUTOMATIC SAMPLING STATION

The first automatic river monitoring station in Pennsylvania operated by the State Health Department was officially placed in operation at Williamsport during public dedication ceremonies July 18.

The station is designed to give a continuous "picture" at all times of the condition of the Susquehanna River in the Williamsport area.

Dr. C. L. Wilbar, Jr., State Health Secretary and Sanitary Water Board Chairman, said that the West Branch of the Susquehanna is subject to relatively high concentrations of acidity at times of large runoffs due to heavy rains in upstream areas of mining operations. Such runoffs, he said, have resulted in fish kills in the past.

"The river has improved so much in recent years that there is now good fishing as far upstream as Lock Haven," Dr. Wilbar reported. "This has been due to 'good housekeeping' in mining areas in conformity with Board requirements and under the watchful eye of the State Health Department mine drainage inspectors."

"We now feel that this monitoring station, located on a bridge across the river, will help us pinpoint the source of fish-killing acid mine runoffs, where heavy rains occur in one or another local mining area, and thus show us where to concentrate efforts to better control acid mine drainage," Dr. Wilbar said.

He explained that the monitoring station is expected to give advance warning of rising acidity, and allow the State engineers to study problems associated with these periodic fish kills.

PHS ANNOUNCES ADDITIONAL RESEARCH CONTRACTS

Dr. Luther L. Terry, Surgeon General of the Public Health Service, recently announced award of two research contracts to study advanced sewage treatment techniques.

One was a grant of \$25,510 to the Polytechnic Institute of Brooklyn, New York.

The other was a grant of \$20,852 to Harvard University.

Both contracts involve study of different aspects of the same problem—absorption, a process where impurities adhere in an extremely thin layer to the surfaces of solids with which they are in contact.

Polytechnic will study the practicality of using ion exchange materials—man-made chemicals tailored to certain uses—in taking contaminants out of sewage effluents.

The Harvard research will center on using more commonly available adsorptive materials, such as fly-ash, to determine their feasibility in removing sewage contaminants.

The contracts are part of a series to universities and industrial and private laboratories to study new and unconventional sewage treatment methods, emphasizing the use of physical and chemical scientific principles, as contrasted with the almost sole reliance upon biological principles in the past.

First contract in the new physico-chemical research program of the Service's Division of Water Supply and Pollution Control in making waste waters re-usable was announced on April 4, to Dow Chemical Company, Cleveland.

THIRD PITTSBURGH SANITARY ENGINEERING CONFERENCE

Latest methods for solving problems associated with municipal solid wastes disposal will be presented and discussed at the Third Pittsburgh Sanitary Engineering Conference to be held November 4 at the University of Pittsburgh's Graduate School of Public Health.

The conference, as in past years, will be of interest to sanitary engineers, municipal officials, disposal plant operators, sanitarians, and equipment manufacture representatives.

Joint co-sponsors will be: American Society of Civil Engineers; University of Pittsburgh's Graduate School of Public Health; Carnegie Tech's Civil Engineering Department; Associated Wastes Engineers of Pittsburgh; and, Pennsylvania Department of Health.

Persons wishing to attend may pre-register by sending \$5.00 for registration and luncheon to: Dr. Eugene Weisberg, Chairman, 1626 Forbes Avenue, Pittsburgh 19, Pennsylvania.

RALPH C. PICKARD APPOINTED CHAIRMAN OF ORSANCO COMMITTEE

Dr. Charles L. Wilbar, Jr., Chairman of the Ohio River Valley Water Sanitation Commission, has appointed Ralph C. Pickard, the Director of the Bureau of Environmental Health, Kentucky Department of Health, as Chairman of the ORSANCO Engineering Committee. The committee is composed of the chief engineers of the signatory state water pollution control agencies and Federal representation, serving the Commission as its technical arm.

RESOLUTIONS OF THE NATIONAL RIVERS AND HARBORS CONGRESS

The National Rivers and Harbors Congress in annual session in Washington, D. C., May 24-27 adopted a number of resolutions. The membership of the Congress is made up of individuals, groups, government agencies and commercial interests. The states and waterways interests are usually well represented. Many United States congressmen and senators have served on its committees or as its officers. Objective of the Congress is an adequate, orderly and prudent development of the use, control and conservation of the nation's water resources. Its standing committees select and endorse both Corps of Engineers and Bureau of Reclamation projects. Generally its interests lean toward inland waterways and port developments.

This year the Rivers and Harbors Congress adopted the following resolutions.

1. That the President implement the recommendations of the Senate Select Committee on Nation Water Resources.
2. That appropriate measures be taken to insure the proper use of the flood plains of the rivers.
3. That dock and moorage standards be adopted on inland waterways to permit passage of larger and faster vessels.
4. That legislation be enacted to provide multiple-purpose regulation of the nation's rivers which will improve both the quantity and quality of streamflow during the dry seasons.
5. That the Congress continue to oppose user charges or tolls on waterways.
6. That consideration and proper evaluation be given to the role of recreation in multiple-purpose water resources projects.
7. That valuable reservoir sites be preserved for future water needs.
8. That the Congress continue to oppose the construction of fixed structures on or over any waterway which might result in an obstruction to navigation. (Urged the Corps of Engineers to stand firm on this policy.)
9. That the U. S. Public Health Service and other groups study the problems of pollution posed by marine craft, municipalities and industries and make appropriate recommendations.
10. That guarantees be given to the sellers of reservoir lands that they shall continue to enjoy their irrigation privileges. Further that the Corps of Engineers provide that contracts by state and local agencies for the use of added storage facilities for water supply shall be on a permanent basis for the useful life of the reservoir.

AIR POLLUTION

CALIFORNIA MOTOR VEHICLE CONTROL BOARD GOES INTO TESTING STAGE

The California Motor Vehicle Pollution Control Board is currently involved in a testing program for devices which will control emissions from two sources.

Testing for devices to control crankcase emissions which amount to about 25 percent of the automobile's contribution to smog are now under way in various manufacturers' plants throughout the United States. The Board has specified the testing procedures and the manufacturer will do the tests in accordance with those procedures in his own plant or in contract laboratories. An

engineer from the staff of the Board is checking and supervising those tests. The present goal is to certify two or more devices to control crankcase emissions by this month.

This early date is feasible because of the hundreds of thousands of California automobiles already equipped with such devices which are in good working order and which have demonstrated their ability to control emissions from the crankcase.

The control of exhaust emissions is a far more complicated procedure and is still in the developmnetal stage by most manufacturers. The testing for these devices will be done by the Motor Vehicle Pollution Control Board using the Automotive Laboratory of the Los Angeles County Air Pollution Control District.

STUDIES OF LEAD IN ATMOSPHERE NOW UNDER WAY

The Air Pollution Division of the Public Health Service is investigating the presence of atmospheric lead in several cities in the country, including Los Angeles. The air over the cities is first being sampled and measured for lead contaminants from a variety of sources including the exhaust from automobiles. Second, medical studies will evaluate lead levels in blood and urine of both average population groups and others whose work exposes them to high concentrations of auto exhaust. In addition, special studies may be made of carbon monoxide and airborne lead in such locations as garages and vehicular tunnels where they are presumed to be concentrated.

The California State Department of Public Health has responsibility for the year-long study in Los Angeles. Cooperating local agencies include the Los Angeles County Air Pollution Control District, the Los Angeles County Health Department, the Vernon City Health Department, University of California at Los Angeles, and California Institute of Technology.

Other cities where levels of atmospheric lead are being investigated are Philadelphia and Cincinnati.

These studies are the outgrowth of recommendations on tetraethyl lead made by a special advisory committee to the Surgeon General of the Public Health Service. The committee suggested that the Public Health Service, in collaboration with manufacturers of tetraethyl lead and other appropriate organizations, conduct studies to help develop hygienic standards for atmospheric lead and to learn more about the body burden of lead in various selected population groups.

SMOG EXPERTS ISOLATE SECOND EYE-PLANT IRRITANT

A second smog compound causing both eye irritation and plant damage has been isolated and synthesized by scientists working in the Air Pollution Research Laboratory at the University of California, Riverside.

Called PPN (peroxypropionyl nitrate), the substance is related to PAN (peroxyacetyl nitrate), the first such double-acting smog component to be isolated; announcement was made last May. PPN and PAN are about equal as eye irritants, but PPN is four to six times as toxic to plants.

The ability of this hitherto unknown constituent of smog to damage plants may explain why agricultural crops show serious pollutant injury even when smog recording devices fail to show high oxidant readings, the Riverside scientists. Oxidant recording machines, a principal method of measuring air pollution, will not register the minute concentration of PPN or PAN that will damage plants.

Although the PPN found was from synthetic mixtures simulating natural smog, the scientists are confident it is part of the usual Los Angeles-type air pollution since its chemical makeup is closely related to other compounds found in polluted air.

NUCLEAR ENERGY

REPORT ISSUED ON RADIOIODINE RELEASE AT SAVANNAH RIVER PLANT

Radioactive iodine levels showed an increase for a brief period in June at several points near the plant boundary in Aiken and Barnwell Counties, (South Carolina) Savannah River Plant officials stated recently.

Monitoring by Health Physicists at the plant shows the situation now normal. Radioactive iodine rapidly disappears from the environment due to its short half-life of 8 days.

Because radioiodine deposited on vegetation can find its way into milk, samples of vegetation and milk are routinely analyzed by the Savannah River Plant. The results of these analyses have been thoroughly reviewed by Commission personnel and were below limits established by the National Committee on Radiation Protection.

Release from 200-foot high stacks at the plant's separations facilities normally assures broad dilution of the radioiodine in areas adjacent the plant. Release of more than the usual amount of iodine, combined with adverse atmospheric conditions, caused this localized situation.

Results of environmental radiation monitoring are reported to the general public by the Savannah River Plant in detail on a quarterly basis. Further data on the radioiodine release will be presented in the next quarterly report on "The Effect of the Savannah River Plant on Environmental Radiation."

13,102 RADIATION SOURCES REGISTERED IN CALIFORNIA

Registered radiation sources in California now number 13,102. Ninety-five percent of the registrations cover radiation sources used in the healing arts. Dentists, with 5,737 registered installations, account for 45 percent of the number filed. Medical doctors submitted 3,550 registrations, or 27 percent of the total.

Non-medical installations, primarily manufacturing plants, educational and research facilities, and government agencies, represent five percent of the registrants. About 97 percent of those registered as possessors of a radiation source have X-ray equipment, a total of 17,401 separate X-ray units.

Registration of radioactive materials, X-ray machines, and other radiation producing equipment is mandatory under a 1959 State law. Completed registration forms have been flowing into the Bureau of Radiological Health of the State Department of Public Health since last June, and it is believed that nearly all possessors have reported.

Radioactive materials, in most instances Atomic Energy Commission licensed radioisotopes or medical radium, were reported by 768 registrants. There are 425 registered installations with both radiation machines and radioactive materials.

In Los Angeles County, registrants number 5,518. There are 2,998 registrants in the nine-county San Francisco Bay Area. San Diego has 818 installations, and Orange County, 535. Other counties with more than 200 installations

reported are Sacramento, 360; San Bernardino, 320; Fresno 266; Riverside, 227; and Kern, 217.

Radiation registration is one element of a program of the State Department of Public Health to determine population exposure to radiation. While radiation is a tool offering great benefits to mankind, it is a public health task to assure that radiation is used in a manner to cause the least possible harm to the public.

NEW ASCE TRANSACTIONS SOON TO GO TO PRESS

In mid-May all Society members received a brochure describing the re-vamping that the TRANSACTIONS are undergoing. Since that time thousands of orders have been received, but still more should have reached us.

Beginning with Volume 126 (1961), TRANSACTIONS will be issued as a standard set of five parts, containing all Division Journal papers, according to the following schedule:

- Part I Engineering Mechanics, Hydraulics, Soil Mechanics and Foundations
- Part II Construction, Structural
- Part III Irrigation and Drainage, Power, Sanitary Engineering
- Part IV Air Transport, City Planning, Highway, Pipeline, Surveying and Mapping, Waterways and Harbors
- Part V Professional Practice

Members of ASCE can enter standing orders to any one, or more, of Parts I through IV at \$3.50 each per year; the price for Part V will be \$2.00 per year. Members can effect a considerable saving by subscribing to all five parts—the total price of \$16.00 is reduced to \$10.00.

Part V is reserved for the papers published in the Journal of Professional Practice, which is of interest to all members, regardless of their technical specialties. Part V will also contain the President's Annual Address, abstracts of the memoirs of deceased members, Final Reports of Committees in the Department of Conditions of Practice, and combined subject and author indexes for Parts I through V.

A single binding has been selected, more attractive and durable than the paper, cloth, and morocco-grained covers used in the past. This binding will be in the Society's official Royal Blue, composed of cloth impregnated with vinyl. The spine will contain horizontal rules to match those used previously on the morocco-grained volumes. The binding and gold stamping will resist fading and will not deteriorate in warm, moist climates.

The TRANSACTIONS will be mailed in December of each year and the bills will be sent out at that time.

Please use the following coupon to place your order. Do not send in a coupon if you previously mailed the original order card.

-----CUT HERE-----

Please enter my standing order for the New ASCE TRANSACTIONS (beginning with Vol. 126, 1961) as follows (Do not prepay):

	ASCE members	Additional member orders
Part I	\$ 3.50	\$ 7.00
Part II	\$ 3.50	\$ 7.00
Part III	\$ 3.50	\$ 7.00
Part IV	\$ 3.50	\$ 7.00
Part V	\$ 2.00	\$ 4.00
Parts I thru V	\$10.00	\$20.00

Signature: _____

My ASCE membership grade is _____

Name (Please Print)_____
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City_____
Zone_____
State

TO ASCE MEMBERS OF CHI EPSILON

Chi Epsilon Fraternity, national civil engineering honor society, has officially offered to supply the funds necessary to furnish a formal Conference Room at the United Engineering Center. This room will be on the ASCE executive floor, will be named "The Chi Epsilon Room," and will be available for conference and committee meetings.

Pledges are not expected, but single voluntary gifts, from members and friends of the Fraternity are earnestly solicited. An attractive Commemoration Book has been planned in which donors of \$100 or more (singly or in groups) may inscribe the name of a revered person.

On request, the national chairman, Samuel Kramer (8701 Shore Road, Brooklyn 9, New York) will be glad to mail a descriptive brochure. Your gift is tax deductible if you make your check out to "ASCE CHI EPSILON ROOM FUND" and mail it to Mr. Donald D. King, ASCE, 33 West 39th Street, New York 18, N. Y. Your gift will be automatically credited to the quota of your initiating Chapter. The national goal is \$10,000.

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AMERICAN SANITARY ENGINEERING
INTER-SOCIETY BOARD, INC.
1960 REPORT OF BOARD OF TRUSTEES

During the year 1960 thirty applicants took the qualifying examination. Of this number 10 were taking a re-examination and 20 were taking the examination for the first time. A total of 21 successfully completed the examination and subsequently were certified by the Board of Trustees. The total number of Diplomates at the end of 1960 was 1037. During the course of the year our attention was called to the death of one Diplomate.

The division of specialties of the Diplomates shows the following:

	Number Certified	% Total
Air Pollution Control	7	0.7
Industrial Hygiene	32	3.1
Public Health	141	13.6
Radiation Hygiene and Hazard Control	5	0.5
Sanitary Engineer	371	35.8
Water Supply and Waste Disposal	481	46.4
	<u>1037</u>	

Sanitary Engineering Faculty

In April, 1960, the Sanitary Engineering Education Directory was made available as the result of several years' work by the Committee on Sanitary Engineering Education of which Gilbert H. Dunstan was chairman. The Directory lists pertinent information for the schools of engineering offering graduate degrees in sanitary engineering, similar information for schools of public health and related institutions, and faculty members in engineering schools not offering graduate degrees in sanitary engineering. This report has proved quite valuable judging by its reception.

Graduate Training

The Board joined with Harvard University, the Massachusetts Institute of Technology and the National Science Foundation in presenting a three-day conference on the graduate education of sanitary engineers. The proceedings of the conference were distributed through M.I.T. Among recommendations coming from the conference were:

1. that the Engineers' Council for Professional Development be requested to act favorably on the recommendation of the ASEIB that graduate programs in sanitary engineering be covered by an accreditation program of ECPD,
2. that the ASEIB through its Committee on Education study the desirability of collaboration among schools having programs in fields of engineering related to environmental health.
3. that the length of time for graduate instruction leading to the first graduate degree in engineering relating to environmental health be one calendar year rather than an academic year,
4. that the graduate instruction leading to the Master's or higher degree include core courses in chemistry, microbiology, radiological hygiene, statistics and epidemiology, and
5. that the ASEIB working with appropriate representatives of the other engineering groups active in sanitary engineering attempt to reconcile differences in the use of terminology in referring to the sanitary engineer with the objective of reaching agreement on a single title satisfactory to all.

New Officers and Board Members

At the annual meeting of the Board of Trustees, the Board paid particular attention to its loss in the death of R. S. Rankin, Secretary and Treasurer of the Board. It elected new officers as follows:

Chairman: Thomas R. Camp
Vice Chairman: Richard Hazen
Secretary: Francis B. Elder
Treasurer: Frank A. Butrico

New Members elected to the Board were:

Richard Hazen, American Society of Civil Engineers (Re-election)
Frank A. Butrico, American Public Health Association
Jack E. McKee, American Society for Engineering Education
Robert E. Stiemke, American Water Works Association (Re-election)
Harvey F. Ludwig, Water Pollution Control Federation
(Completing the unexpired term of R. S. Rankin)
Emil C. Jensen, Water Pollution Control Federation
Kenneth S. Watson, American Institute of Chemical Engineers (Re-election)
Francis B. Elder, At-Large
N. Van Hendricks, At-Large

Finances

The Board received a special report on the fiscal status of ASEIB which indicated that for 1960 the income would be approximately \$6000 with the anticipated expenditures totaling slightly over \$10,000. Several measures to bring the budget into balance were discussed. One of these, a possible increase in the annual renewal fee, is covered on a special insert accompanying

the bill for the annual renewal fee. Another measure, which was adopted is to publish complete Rosters every three years. A supplement to the Roster will be published in intervening years with the next complete Roster appearing in 1963.

Special Activities

Committees of the Board are active in several areas. The Specialty Committee under the chairmanship of Raymond J. Faust, Secretary, American Water Works Assn., continues its responsibilities of reviewing all applications, administering examinations and recommending action to the Board. The Committee on Publicity and Public Relations has been reorganized with Professor Jack E. McKee, California Institute of Technology, Dept. of Civil Engineering, serving as chairman. The primary objective of this committee is to bring more and better qualified recruits into the sanitary engineering profession.

A new Committee, that on Terminology of the Sanitary Engineering Profession, has been organized with Allen D. Brandt, Mgr. of Industrial Health Engineering, Bethlehem Steel Co., as chairman. The responsibility of this committee is to work with other representatives of engineering groups in developing terminology designating the field of the sanitary engineer so that a mutually acceptable engineering title of common usage be established. Harold B. Gotaas, Dean, Technological Institute, Northwestern University, has been appointed chairman of the Committee on Sanitary Engineering Education. This committee is charged with the revision of the "Sanitary Engineering Education Directory" and with negotiation with the Engineers Council for Professional Development on accreditation of graduate curricula.

Extending Certification

The Board took special recognition of the need to stimulate on a continuing basis interest in the certification procedure to the end that qualified engineers not certified take necessary action to obtain this distinction. It is estimated that there is a potential of at least one hundred new sanitary engineers each year. Each Diplomat is urged to help in acquainting his colleagues with the ASEIB and in encouraging them to take steps to become certified.

Non-Payment of Renewal Fee

Some Diplomates may find a special note attached to their statements of the 1961 renewal fee. It was the view of the Board that anyone failing to remit the renewal fee for a period of two years should be dropped from the Academy and from those listed as certified. I am happy to report that there are only half a dozen who have not paid their 1960 renewal fees.

The annual Report is meant to keep you apprised of the work of the Board in behalf of the sanitary engineering profession. Each Diplomat of the American Academy of Sanitary Engineers supports this work.

The Board will be happy to receive suggestions which may lead to advancement of the profession.

The American Sanitary Engineering Intersociety Board, Inc.

By

Thomas R. Camp, Chairman

